On semi-automated matching and integration of database schemas
Ünal-Karakas, Ö.

Citation for published version (APA):
Contents

1 INTRODUCTION  1
   1.1 Motivation and Requirements Analysis  1
   1.2 Addressed Research Questions  7
   1.3 Objectives and Contributions of the Thesis  9
   1.4 Scope of the Research  10
   1.5 Research Method  11
   1.6 Outline of the Dissertation  12

2 INTERLINKING AND INTEGRATING SCHEMAS - BACKGROUND  15
   2.1 Related Concepts  15
   2.2 Multidatabase Classification Based on Schema Coupling  20
   2.3 Schema Matching and Schema Integration  21
   2.4 Conclusion  27

3 HETEROGENEITY  29
   3.1 Related Concepts  29
   3.2 Taxonomy of Heterogeneity Resulted Conflicts  30
   3.3 Challenges for Schema Matching  35
   3.4 Conclusion  39

4 SASMINT APPROACH  41
   4.1 Related Research Approaches  41
   4.2 Proposed Approach: SASMINT  53
   4.3 Conclusion  92

5 SASMINT DEVELOPMENT ARCHITECTURE  95
   5.1 Processing Steps of SASMINT  95
   5.2 Technologies Applied  95
   5.3 Main Components of the System  97
   5.4 How does the System Work?  97
   5.5 Conclusions  105
6 EMPIRICAL VALIDATION OF SASMINT 107
   6.1 Schema Matching Evaluations in Related Research 107
   6.2 Quality Measures Used for Evaluating SASMINT 108
   6.3 Test Schemas 112
   6.4 Setup for the Experimental Evaluation 115
   6.5 Evaluation of Schema Matching—For "select all above threshold" strategy 116
   6.6 Evaluation of Schema Matching with Sampler 119
   6.7 Evaluation of Schema Integration Performance 125
   6.8 Conclusions 129

7 THESIS CONCLUSIONS AND FUTURE WORK 133
   7.1 Summary of General Approach 133
   7.2 Reflections on the Research Questions 134
   7.3 Future Work 136

A LIST OF AUTHOR’S PUBLICATIONS 139

B XSD FOR SDML 141

C CLASS DIAGRAM FOR SDML 145

D TEST SCHEMAS 149

E EVALUATION OF SCHEMA MATCHING – FOR "SELECT MAX ABOVE THRESHOLD" STRATEGY 159

F EVALUATION OF SCHEMA INTEGRATION-DETAILS OF STEPS 163

BIBLIOGRAPHY 167

SUMMARY 175

SAMENVATTING 177

ACKNOWLEDGMENTS 181